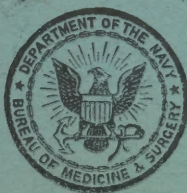


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Catalog of
HOSPITAL CORPS SCHOOLS
AND COURSES

REVISED



NAV MED 367



THE BUREAU OF MEDICINE AND SURGERY
NAVY DEPARTMENT
WASHINGTON, D. C.
1944

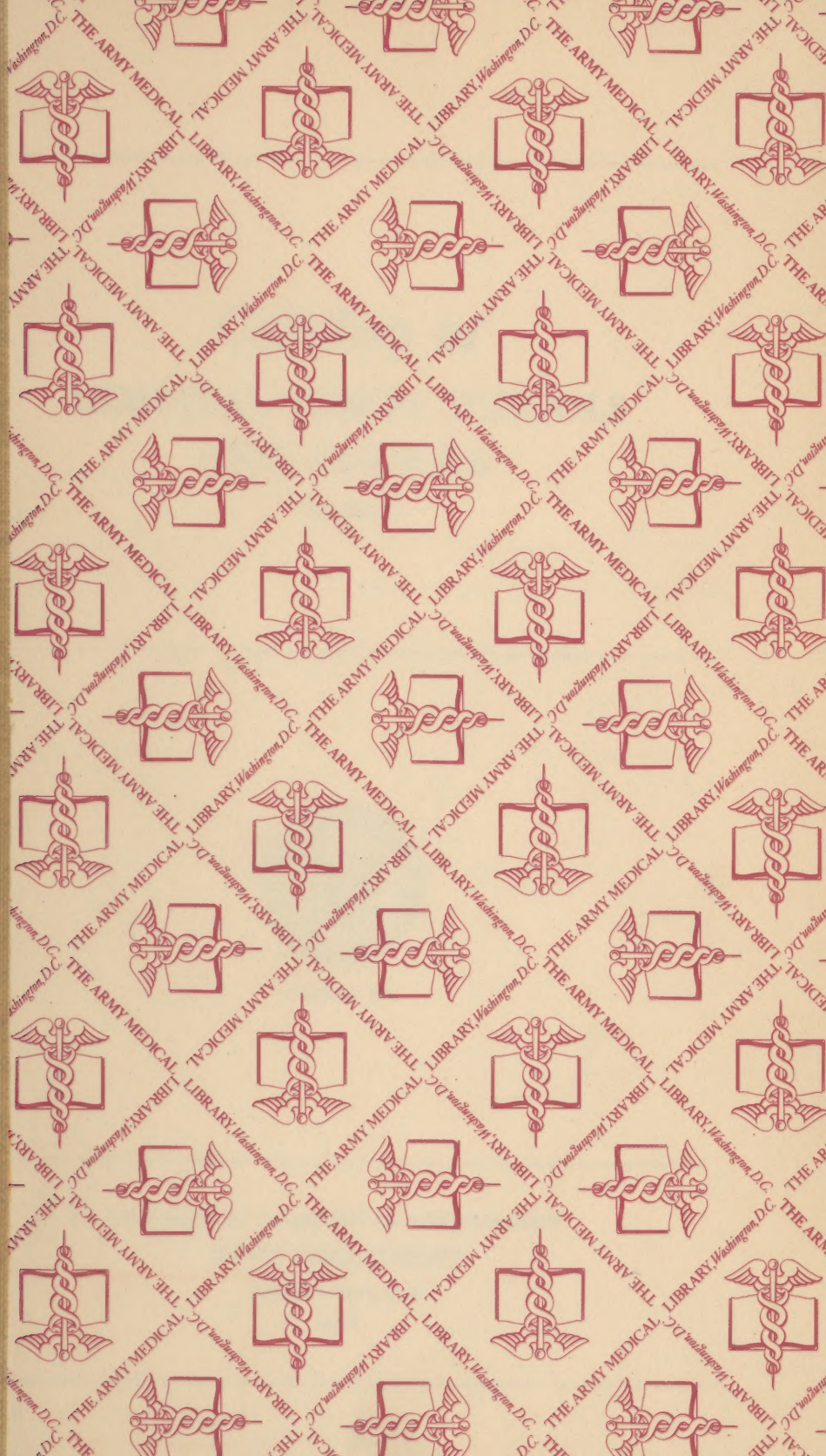
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HOSPITAL CORPS SCHOOLS
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U.S. THE BUREAU OF MEDICINE AND SURGERY
NAVY DEPARTMENT

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FOREWORD

1 SEPTEMBER 1944.

To: All Medical Department personnel.

SUBJ: Catalog of Hospital Corps Schools and Courses, Revised 1944.

1. Responsible officers are directed to insure that instruction in all courses, described in subject Catalog conforms to the minimum outlines provided.

2. All courses have been established on a peace-time basis but, of necessity, some have been accelerated to meet war-time needs.

3. The issuance of this Revised Catalog does not rescind or modify previous authority with respect to acceleration of courses.

4. Where acceleration is authorized the scope of the courses will not be changed but the required hours of instruction in all subjects will be modified proportionately.

5. The outlines of courses will be considered as the minimum coverage of the subject. It is expected the actual instruction will elaborate and expand upon the outlines as indicated by the needs of the personnel under instruction.

6. It is desired that pertinent audio-visual and other appropriate teaching aids be utilized to the extent practicable to achieve the maximum efficiency of instruction.

ROSS T. McINTIRE

Vice Admiral (MC)

Surgeon General, U. S. Navy

OFFICERS OF ADMINISTRATION AND INSTRUCTION

Advisory Council on Hospital Corps Schools and Courses

The Chief of the Bureau of Medicine and Surgery, Chairman.

The Representative of the Office of Education and Training, Bureau of Naval Personnel.

The Representative of the Office of Medical Corps Personnel.

The Representative of the Office of Hospital Corps Personnel.

The Representative of the Office of Dental Corps Personnel.

The Representative of the Office of Nurses Corps Personnel.

The administration of all Hospital Corps schools and naval hospitals giving instruction and training to hospital corpsmen, is under the direction of the Surgeon General of the Navy, and under the immediate supervision of the medical officer in command.

Personnel of the Medical, Hospital, Dental, and Nurses Corps', serve as instructors in the several courses. Instructors are selected for this duty on the basis of their education, experience and teaching ability.

INTRODUCTION

This catalog has been prepared at the direction of the Surgeon General of the United States Navy, to describe the educational program of the Hospital Corps and to establish the standards for the schools, courses and training within its cognizance.

Opportunity for continuous education and experience is available to all hospital corpsmen. Special schools and courses are maintained to provide for the education of the personnel of the Corps. Advancement in rating is dependent upon growth in professional qualifications, service, and general aptitude for the duties of the Hospital Corps.

The instructional program under the direction of the medical department, has been carefully planned and standardized and is described in detail in this catalog.

THE HOSPITAL CORPS SCHOOLS AND COURSES

The educational program of the Hospital Corps is divided into four levels. The lower or basic schools provide the elementary professional education of new members of the corps. The intermediate course is designed primarily to prepare pharmacist's mates, first class and second class for duty independent of medical officers. The specialization courses train qualified Hospital Corps personnel in the technical specialties supporting medical service. The advanced courses are directed to the qualification of Hospital Corps officers for administrative duties incident to the operation and maintenance of naval hospitals and other medical department activities.

In addition to the organized schools and courses, standard Navy Training Courses are available for independent study, in preparation for examination for advancement in rating.

Hospital Corps schools are located at U. S. Naval Hospital, San Diego, Calif.; U. S. Naval Training Center, Bainbridge, Md., and U. S. Naval Hospital, Farragut, Idaho. The Hospital Corps School (Intermediate Course) is located at U. S. Naval Hospital, Portsmouth, Va. Specialization courses are offered at the Naval Medical School, National Naval Medical Center, Bethesda, Md., the larger naval hospitals and at other naval activities. The advanced courses for Hospital Corps officers are given at the U. S. Naval Hospital, National Naval Medical Center, Bethesda, Md.

REQUIREMENTS FOR ADMISSION TO HOSPITAL CORPS SCHOOLS AND COURSES

All applicants for enlistment in the Hospital Corps of the U. S. Navy are required to meet certain high standards as to mental, moral, and physical fitness.

Personnel who meet these standards and are accepted for the Hospital Corps receive their primary professional education in one of the Hospital Corps schools and are required to attain a proficiency rating of not less than 2.5 in order to receive the Hospital Corps certificate. A period of training in general hospital duties, with emphasis upon the care of the sick and injured follows graduation.

Hospital Corps personnel who submit evidence of satisfactory training in appropriate fields related to medicine may be ordered to a naval hospital for professional orientation. Completion of this special training is considered the equivalent of graduation from a Hospital Corps school for admission to intermediate, specialization or advanced courses.

Admission to intermediate, specialization and advanced courses is by selection. Pharmacist's mates may submit applications through their commanding officer for admission to any of the courses listed in this Catalog.

All applications must state (1) name, age, and rating of applicant; (2) length of naval service; (3) civilian education; and (4) civilian and naval professional experience.

All applications must be accompanied by the recommendation of a medical officer which shall include an evaluation of the applicant's aptitude for general Hospital Corps duties and his suitability for the special duties embraced by the technical field for which application for training is made. To qualify for admission to intermediate, specialization or advanced courses Hospital Corps personnel may be required to serve at least 3 months probationary duty as assistant in the particular specialty. Men who have completed a special training course may be required to serve a minimum of 2 full years on active duty. Hospital Corps personnel who complete an intermediate, specialization or advanced course and have been certified as a qualified assistant, technician or associate may be assigned to duty in that specialty.

The courses are organized on the highest possible plane and while designed primarily to meet the needs of the service, provide a sound training which, in some instances, can be utilized in related civilian activities. There are many civilian opportunities open to Navy trained specialists, particularly in the fields of physical therapy, clinical laboratory services, professional relations and sales work in pharmacy, dental technology, nursing, industrial first aid, and general hospital services.

ADVANCED COURSES

OFFICERS

Courses	Instruction center	Length ¹ of course (months)	Satisfactory candidates certified as—
Office Administration.....	National Naval Medical Center, Bethesda, Md.	12 (6)	Associate in Office Administration.
Commissary Administration.....	do	12 (6)	Associate in Commissary Administration.
Property and Accounting Administration.....	do	12 (6)	Associate in Property and Accounting Administration.
Hospital Administration ²	do	6	Qualified in Naval Hospital Administration.

¹ Some courses have been temporarily accelerated to meet war-time needs. Numbers in parentheses show, in months, length of such accelerated courses.
² War emergency course. For curriculum see Hospital Corps Quarterly, Vol. 17, 3, May 1944 p.6.

INTERMEDIATE COURSE

ENLISTED MEN

Courses	Instruction center	Length ¹ of course (months)	Satisfactory candidates certified as—
Intermediate.....	Hospital Corps School (Class "B"), U. S. Naval Hospital, Portsmouth, Va.	4 (3)	Pharmacist's Mates (Special duty).

SPECIALIZATION COURSES **ENLISTED PERSONNEL**

Courses	Instruction center	Length of course (months)	Satisfactory candidates certified as—
Aviation Medicine.....	Naval air stations.....	4 (3)	Qualified Assistant in Aviation Medicine.
Clerical Procedures.....	Naval hospitals.....	6	Qualified Assistant in Clerical Procedures.
Clinical Laboratory Technology.....	do.....	7 (6)	Medical Technologist.
Commissary.....	do.....	6	Qualified Assistant in Commissary.
Deep Sea Diving.....	Navy Yard, Washington, D. C.....	6 (5)	Qualified Diver.
Dental Technology (general).....	Navy dental activities.....	4 (2½)	Dental Technologist.
Dental Technology Prosthetic.....	Navy prosthetic dental activities.....	8 (6)	Dental Technologist Prosthetic.
Dermatology and Syphilology.....	Naval Hospital, New York, N. Y.....	4	Qualified Assistant in Dermatology and Syphilology.
Duplication Technic.....	NNMC, Bethesda, Md.....	6	Qualified Assistant in Duplication Technic.
Electrocardiography and Basal Metabolism.....	Naval hospitals.....	4 (3)	Qualified Assistant in Electrocardiography and Basal Metabolism.
Electroencephalography.....	NNMC, Bethesda, Md., Naval hospital, Chelsea, Mass.....	4	Qualified Assistant in Electroencephalography.
Epidemiology and Sanitation.....	NNMC, Bethesda, Md.....	4	Qualified Assistant in Epidemiology and Sanitation.
Fever Therapy.....	NNMC, Bethesda, Md., Naval hospital, Portsmouth, Va.....	4 (3)	Qualified Assistant in Fever Therapy.
Low Pressure Chamber.....	Naval air stations.....	3	Qualified Assistant in Low Pressure Chamber Technic.

Some courses have been temporarily accelerated to meet war-time needs. Numbers in parentheses show, in months, length of such accelerated courses.

SPECIALIZATION COURSES—Continued

ENLISTED PERSONNEL

Courses	Instruction center	Length ¹ of course (months)	Satisfactory candidates certified as—
Malariaology.....	NNMC, Bethesda, Md.....	1½	Qualified Assistant in Malariaology.
Medical Field Service.....	Fleet Marine Force training centers.....	3 (1½)	Qualified Assistant in Medical Field Service
Medical Photography.....	NNMC, Bethesda, Md.....	6	Qualified Assistant in Medical Photography.
Neuropsychiatry.....	St. Elizabeth's Hospital, Washington, D. C.	6 (4)	Neuropsychiatry Technologist
Neuropsychiatry Clerical Procedures.....	Naval hospitals.....	4	Qualified Assistant in Neuropsychiatry Clerical Procedure.
Occupational Therapy.....	do.....	3	Qualified Assistant in Occupational Therapy.
Operating Room Technic.....	Naval hospitals.....	6	Qualified Assistant in Operating Room Technic
Pharmacy and Chemistry.....	NNMC, Bethesda, Md.....	9 (6)	Qualified Assistant in Pharmacy—Chemistry
Physical Therapy.....	Naval hospitals.....	4 (3)	Qualified Assistant in Physical Therapy
Property and Accounting.....	do.....	12	Qualified Assistant in Property and Accounting.
Submarine Service.....	Submarine Base, New London, Conn.	3	Qualified Submariner.
X-ray.....	Naval Hospitals.....	6 (5)	X-ray Technologist.

¹ Some courses have been temporarily accelerated to meet war-time needs. Numbers in parentheses show, in months, length of such accelerated courses.

CURRICULA LEADING TO CERTIFICATES

HOSPITAL CORPS CERTIFICATE

<i>Subjects</i>			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
AP	1	Anatomy and Physiology.....	55	26
CHEM	1	Elementary Chemistry.....	24	30
HS	1	Hygiene and Sanitation.....	38	6
BACT	1	Bacteriology and Elementary Laboratory Technic.....	18	40
MMT	1	Materia Medica and Toxicology.....	46	8
MSFA	1	Minor Surgery and First Aid.....	39	70
ND	1	Nursing and Dietetics.....	48	105
PHAR	1	Pharmacy and Metrology.....	25	62
Total hours.....			293	347
Grand total.....			640	

AP	1	Anatomy and Physiology The structure and function of the human body.
CHEM	1	Elementary Chemistry Principles of inorganic and organic chemistry.
HS	1	Hygiene and Sanitation Principles of public health as applied to men housed in barracks, on board ship and troops in the field. Elements of chemical warfare.
BACT	1	Bacteriology and Elementary Laboratory Technic. Introductory bacteriology and basic principles of clinical laboratory procedures.
MMT	1	Materia Medica and Toxicology Therapeutic uses, doses and properties of drugs with special reference to the items in The Supply Catalogue, Medical Department, U. S. N.
MSFA	1	Minor Surgery and First Aid Theoretical and practical training in first aid.
ND	1	Nursing and Dietetics Principles of nursing and dietetics.
PHAR	1	Pharmacy and Metrology Fundamental pharmaceutical technics and the mathematics of pharmacy.

Text: Handbook of the Hospital Corps, U. S. Navy.

¹ Basic course, required of Apprentice Seamen before transfer to the Hospital Corps, and all personnel whose rating is changed to Hospital Apprentice, second class or first class. The Hospital Corps Certificate, or its equivalent, is one of the prerequisites for admission to intermediate, specialization or advanced courses.

INTERMEDIATE, SPECIALIZATION AND ADVANCED COURSES

CERTIFICATE IN AVIATION MEDICINE (Qualified Assistant)

		<i>Subjects</i>	<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
AP	2	Anatomy and Physiology, specialized.....	25	125
BACT	10	Clinical Laboratory Technic.....	18	62
MSFA	2	First Aid, specialized.....	20	75
LPC	5	Pressure Chamber Technology.....	20	150
CLER	6	Reports and returns.....	45	100
Total hours.....			128	512
Grand total.....			640	

- AP 2 Anatomy and Physiology, specialized
 Advanced and specialized study of the eye, ear, heart
 and lungs. Assistance in physical examinations of
 aviators.
- BACT 10 Clinical Laboratory Technics
 Diagnostic tests, blood typing, urinalysis, microscopic
 examinations.
- MSFA 2 First Aid, specialized
 Advanced and specialized aviation first aid, qualify-
 ing as assistant to flight surgeon.
- LPC 1 Pressure Chamber Technology
 Operation of machines, readings, recordings, reports.
- CLER 6 Reports and Returns
 Preparation of Medical Department forms; typing.
- Text: Handbook of the Hospital Corps, U. S. Navy, chapter XII,
 section 1.
- References: Aviation Medicine Technicians' Manual, School of Avia-
 tion Medicine, U. S. Naval Air Station, Pensacola,
 Fla.
 Instruction notes for Aviation Medicine Technicians,
 Naval Air Station, Anacostia, D. C.

CERTIFICATE IN CLERICAL PROCEDURES (Qualified Assistant)

<i>Subjects</i>		<i>Clock hours</i>	
		<i>Didactic</i>	<i>Practical</i>
CLER 1	Typing.....		225
CLER 4	Preparation of Official Forms.....	45	500
CLER 5	Mailing.....	20	40
CLER 3	Navy Filing.....	10	120
Total hours.....		75	885
Grand total.....			960

- CLER 1 Typing
 Training and practice in touch system typing and shorthand.
- CLER 4 Preparation of Official Forms
 Training in the preparation of forms used by the Medical Department and the several bureaus.
- CLER 5 Mailing
 Procedure for handling official mail.
- CLER 3 Navy Filing
 Training and practice in accordance with the U. S. Navy Filing Manual.

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XI, section 1.

CERTIFICATE IN CLINICAL LABORATORY TECHNIC (Technologist)

			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
BACT	3	Media.....	8	150
BACT	4	Bacteriology.....	16	150
BACT	5	Serology.....	16	150
BACT	6	Hematology.....	16	150
BACT	7	Pathology.....	14	90
BACT	8	Medical Parasitology.....	16	120
BACT	9	Blood and Clinical Chemistry.....	24	200
Total hours.....			110	1,010
Grand total.....			1,120	

- BACT 3 Media
Uses, requirements and preparation.
- BACT 4 Bacteriology
General bacteriology with emphasis upon pathogenic organisms, cultures, etc.
- BACT 5 Serology
Study of the sera, including immunology.
- BACT 6 Hematology
Blood cell counts, hemoglobin estimations, typing, and tests.
- BACT 7 Pathology
Tissue pathology; preparation of tissue for histopathological examination.
- BACT 8 Medical Parasitology
Classification and identification of animal parasites and insects affecting man.
- BACT 9 Blood and Clinical Chemistry
Technic of collecting and testing blood; urinalysis and other diagnostic procedures.
- Text: Handbook of the Hospital Corps, U. S. Navy, chapter XII, sections 3 and 9.
- References: Syllabus of Laboratory Technicians Course, National Naval Medical Center.
Practical Bacteriology, Hematology, and Animal Parasitology, Stitt, Clough, Clough.
Clinical Diagnosis by Laboratory Methods, Todd and Sanford.
Laboratory Manual of Biological Chemistry, Folin.
Clinical Laboratory Methods and Diagnosis, Gradwohl.
Textbook of Laboratory Diagnosis, Osgood.

CERTIFICATE IN COMMISSARY ADMINISTRATION **(Associate)**

		<i>Subjects</i>	<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
COMM 1	Accounting, commissary.....		160	225
COMM 2	Procurement.....		100	150
COMM 3	Management, commissary.....		55	125
COMM 4	Food Inspection and Grading.....		200	375
COMM 5	Menu Planning.....		60	75
COMM 6	Storage of Subsistence.....		45	250
Total hours.....			620	1,300
Grand total.....				1,920

- COMM 1 Accounting, commissary
 Ledger posting, vouchers, and forms.
- COMM 2 Procurement
 Requirements, orders, payments, and accounts.
- COMM 3 Management, commissary
 Personnel assignments, hiring of personnel, and inventories.
- COMM 4 Food Inspection and Grading
 Meats, poultry, dairy products, and fresh provisions.
- COMM 5 Menu Planning
 Principles of dietetics and formulation of menus.
- COMM 6 Storage of Subsistence
 Supervision of storerooms.

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XI section 3.

CERTIFICATE IN COMMISSARY (Qualified Assistant)

<i>Subjects</i>		<i>Clock hours</i>	
		<i>Didactic</i>	<i>Practical</i>
COMM 1	Accounting, Commissary.....	60	175
COMM 4	Food Inspection and Grading.....	40	175
COMM 6	Storage of Subsistence.....	25	250
CLER 1	Typing.....		100
CLER 3	Navy Filing.....	15	120
Total hours.....		140	820
Grand total.....		960	

- COMM 1 Accounting, Commissary
 Ledger posting, vouching, and forms.
- COMM 4 Food Inspection and Grading
 Meats, poultry, dairy products, and fresh provisions.
- COMM 6 Storage of Subsistence
 Assistance in storerooms.
- CLER 1 Typing
 Training and practice in touch-system typing.
- CLER 3 Navy Filing
 Training and practice in filing in accordance with
 Navy Department Regulations and U. S. Navy
 Filing Manual.

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XI,
section 3.

CERTIFICATE IN DEEP SEA DIVING (Qualified Diver)

<i>Subjects</i>			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
DIV	1	Diving.....		240
DIV	2	Diving, advanced.....		240
DIV	3	Shop Work.....	25	175
DIV	4	Submarine Rescue.....	6	40
DIV	5	Helium-Oxygen Diving.....	12	16
MSFA	3	First Aid, advanced.....	12	36
DIV	7	Compressed Air Illness.....	12	
DIV	8	Diving Technology.....	46	100
Total hours.....			113	847
Grand total.....			960	

DIV	1	Diving	
		Pressure and open tank diving.	
DIV	2	Diving, advanced	
		Practical river diving.	
DIV	3	Shop Work	
		Practical training.	
DIV	4	Submarine Rescue	
		Use of submarine escape chamber.	
DIV	5	Helium-Oxygen Diving	
		Deep-sea diving.	
DIV	7	Compressed Air Illness	
		Cause, prevention, and treatment.	
DIV	8	Diving Technology	
		Specialized technic of diving.	
MSFA	3	First Aid, Advanced	
		Advanced, specialized technic.	

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XII,
section 5.

CERTIFICATE IN DENTAL TECHNOLOGY (GENERAL) (Technologist)

<i>Subjects</i>			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practica</i>
MMT	3	Materia Medica, dental.....	5	
XR	1	X-Ray Technic.....	9	23
HS	2	Hygiene, oral.....	9	90
DENT	2	Odontography.....	6	9
BACT	2	Bacteriology, oral.....	6	15
BACT	11	Pathology, oral.....	11	12
HIST	1	Histology, oral.....	6	9
DENT	1	Dental Technology.....	72	350
AP	4	Anatomy, dental.....	8	
Total hours.....			132	508
Grand total.....			640	

MMT	3	Materia Medica, dental Common drugs and their use in dentistry.
XR	1	X-Ray Technic Technic of taking, exposing, and processing of roentgenograms.
HS	2	Hygiene, oral Deposits, caries, pathology, prophylactics, medications.
DENT	2	Odontography Description of the internal and external form of teeth, and their relations.
BACT	2	Bacteriology oral Non-pathogenic and pathogenic oral bacteria.
BACT	11	Pathology, oral Macroscopic and microscopic study of diseased and abnormal tissues and structures.
HIST	1	Histology, oral Microscopic study of normal teeth and their supporting tissues.
DENT	1	Dental Technology Assisting at dental services, clinical duties, and office routines.
AP	4	Anatomy, dental Specialized anatomy of the oral cavity and the teeth.

Text: Handbook of the Hospital Corps, U. S. Navy, chapter III, section 4.
Handbook for Dental Technicians, (General) National Naval Medical Center.

CERTIFICATE IN DENTAL TECHNOLOGY (PROSTHETIC) (Technologist)

<i>Subjects</i>			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
DENT	3	Case Survey and Design.....	16	130
DENT	4	Crown and Bridge.....	23	288
DENT	5	Instruments and Materials.....	28	
AP	3	Anatomy, oral.....	16	
DENT	6	Metallurgy, dental.....	16	150
DENT	7	Processing and Laboratory.....	45	460
DENT	2	Odontology.....	16	92
Total hours.....			160	1,120
Grand total.....				1,280

- DENT 3 Case Survey and Design
Partial denture resistance and retention skeletal form, and dental bridge planning.
- DENT 4 Crown and Bridge
Construction of fixed and removable dental appliances, and crown restorations.
- AP 3 Anatomy, oral
Anatomical considerations related to denture and dental crown and bridge construction.
- DENT 5 Instruments and Materials
Instruments and materials used in dental prosthetic laboratory procedure.
- DENT 6 Metallurgy, dental
Properties and manipulation of various metals used in dental prosthesis.
- DENT 7 Processing and Laboratory
Methods of using the acrylic resins and vulcanite in dental construction.
- DENT 2 Odontology
Description of the internal and external form of teeth, and their relations.

Text: Handbook for Prosthetic Dental Technicians, National Naval Medical Center.

CERTIFICATE IN DERMATOLOGY AND SYPHILOLOGY (Qualified Assistant)

		<i>Subjects</i>	<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
DS	1	Dermatologic diagnosis.....	25	100
DS	2	Dermatologic therapy.....	25	200
DS	3	Diagnosis, Syphilis.....	25	100
DS	4	Treatment, Syphilis.....	25	140
Total hours.....			100	540
Grand total.....			640	
DS	1	Dermatologic Diagnosis		
		Differential diagnosis of skin lesions.		
DS	2	Dermatologic Therapy		
		Dermatologic dressings.		
DS	3	Diagnosis, Syphilis		
		Differential diagnosis of penile and extra-genital lesions.		
DS	4	Treatment, Syphilis		
		Preparation and methods of administration of anti-lustic therapy.		

Text: Handbook of the Hospital Corps, U. S. Navy.

Reference: Synopsis of Skin Diseases, C. V. Mosby, 1942.

CERTIFICATE IN DUPLICATION TECHNIC (Qualified Assistant)

			<i>Clock hours</i>	
<i>Subjects</i>			<i>Didactic</i>	<i>Practica</i>
DUP	1	Offset Presses.....	20	310
DUP	2	Plate Room.....	12	200
DUP	3	Camera Room.....	12	200
DUP	4	Cutter Room.....	6	200
Total hours.....			50	910
Grand total.....			960	

DUP	1	Offset Presses Preparation of solutions and ink, adjustments and maintenance.
DUP	2	Plate Room Preparation of solutions and care of plates.
DUP	3	Camera Room Camera and lens adjustments, exposure and developing of films.
DUP	4	Cutter Room Care, adjustment and use of machine.

Text: Lithographer's Manual, compiled by Soderstrom, 1940 edition.

CERTIFICATE IN ELECTROCARDIOGRAPHY AND BASAL METABOLISM

(Qualified Assistant)

			<i>Clock hours</i>	
<i>Subjects</i>			<i>Didactic</i>	<i>Practical</i>
AP	6	Physiology of Circulation.....	24	6
ECG	1	Technic of Electrocardiography.....	6	300
ECG	2	Metabolism and Oxidation.....	24	6
ECG	3	Basal Metabolism Machines.....	6	268
Total hours.....			60	580
Grand total.....			640	
<hr/>				
AP	6	Physiology of Circulation		
		Advanced and specialized physiology of the heart.		
ECG	1	Technic of Electrocardiography		
		Principles of operation and repair of machines.		
ECG	2	Metabolism and Oxidation		
		Principles of metabolism and clinical application of tests.		
ECG	3	Basal Metabolism Machines		
		Principles of operation and repair of equipment.		

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XII, section 6.

CERTIFICATE IN ELECTROENCEPHALOGRAPHY

(Qualified Assistant)

			<i>Clock hours</i>	
<i>Subjects</i>			<i>Didactic</i>	<i>Practical</i>
ECG	1	Basic electricity.....	40	60
EEG	2	Anatomy and diseases of the brain.....	10	5
EEG	3	Technic of electroencephalography.....	5	520
Total hours.....			55	585
Grand total.....			640	
EEG	1	Basic electricity Principles of applied electricity.		
EEG	2	Anatomy and diseases of the brain Study of cortical electric dysrhythmia related especially to organic brain disease.		
EEG	3	Technic of electroencephalography Operation and repair of electroencephalograph apparatus.		

Reference: NavShip's Publication No. 90012 (Basic Electricity).

CERTIFICATE IN EPIDEMIOLOGY AND SANITATION (Qualified Assistant)

<i>Subjects</i>			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
BACT	12	Bacteriology and Immunology, advanced.....	100	250
EPID	1	Epidemiology.....	30	45
EPID	2	Vital Statistics.....	50	50
EPID	3	Parasitology and Entomology.....	10	65
EPID	4	Sanitary Engineering.....	20	20
Total hours.....			210	430
Grand total.....			640	
BACT	12	Bacteriology and Immunology, advanced. Pathogenic bacteriology and immunology.		
EPID	1	Epidemiology Study of epidemic diseases.		
EPID	2	Vital Statistics Fundamental mathematics and applied statistical methods.		
EPID	3	Parasitology and Entomology Study of parasites of man and malariology.		
EPID	4	Sanitary Engineering. Advanced military sanitation.		

CERTIFICATE IN FEVER THERAPY (Qualified Assistant)

			<i>Clock hours</i>	
<i>Subjects</i>			<i>Didactic</i>	<i>Practical</i>
PHT	4	Fever Therapy.....	60	340
PHT	2	Hydrotherapy.....	20	100
PHT	3	Light and Electrotherapy.....	20	100
Total hours.....			100	540
Grand total.....			640	
PHT	4	Fever Therapy		
		Theory and application of artificial fever.		
PHT	2	Hydrotherapy		
		Operation and application of therapeutic baths.		
PHT	3	Light and Electrotherapy		
		Types of equipment and clinical application of electrotherapy.		

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XII, section 10.

Reference: Textbook of Pyretotherapy, Willa Phillips.

CERTIFICATE IN LOW PRESSURE CHAMBER (Qualified Assistant)

		<i>Subjects</i>	<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
LPC	1	Operation of Chamber Controls.....	50	100
LPC	2	Oxygen Equipment.....	15	15
LPC	3	Use of Oxygen in Anoxia and Aeroembolism.....	20	60
PS	2	Psychological Tests.....	15	15
AP	5	Physiology.....	20	
LPC	4	Pressure Chamber Technology.....	20	150
Total hours.....			140	340
Grand total.....				480

LPC	1	Operation of Chamber Controls Theory of Pressure Chambers and practical experience in operation.
LPC	2	Oxygen Equipment Theoretical and practical training in oxygen equipment.
LPC	3	Use of Oxygen in Anoxia and Aeroembolism Use of oxygen equipment, the oximeter, the electrocardiograph, and special equipment used in the study of anoxia.
PS	2	Psychological Tests Assistance in special psychological testing.
AP	5	Physiology Specialized physiology of respiration.
LPC	4	Pressure Chamber Technology General training and practice in the specialty.

Text: Handbook of the Hospital⁹⁹₁₀₀ Corps, U. S. Navy, chapter XII, section 1.

References: Aviation Medicine, Armstrong.

Anoxia, Its Effect on the Body, Van Liere.

Technicians Manual of Aviation Medicine, School of Aviation Medicine, Pensacola, Fla., sec. V.

CERTIFICATE IN MALARIOLOGY (Qualified Assistant)

			<i>Clock hours</i>	
<i>Subjects</i>			<i>Didactic</i>	<i>Practical</i>
MAL	1	Malaria.....	10	50
MAL	2	Medical Entomology.....	20	60
MAL	3	Malaria Control.....	10	25
MAL	4	General Sanitation and Disease.....	10	15
Total hours.....			50	150
Grand total.....			200	

MAL 1 Malaria

Study of malaria parasites.

MAL 2 Medical Entomology

Identification and control of insects.

MAL 3 Malaria Control

Individual and general control measures.

MAL 4 General Sanitation and Disease

Epidemiology of intestinal parasites.

Text: Arthropods of Medical Importance with Special Reference to
Malaria Control, National Naval Medical Center, Naval
Medical School.

Laboratory Guide to Medical Protozoology and Helminthology,
Naval Medical School, National Naval Medical Center.

References: Diagnosis, Prevention and Treatment of Tropical Diseases,
Stitt's Strong.

Human Malaria, American Association for Advancement
of Science.

CERTIFICATE IN MEDICAL FIELD SERVICE (Qualified Assistant)

		<i>Subjects</i>	<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
HS	3	Hygiene and Sanitation, field.....	30	20
TACT	1	Tactics, medical field.....	60	60
TACT	2	Drill.....	10	100
TACT	3	Marine Corps Organization.....	40	100
CHEM	6	Chemical Warfare.....	40	20
Total hours.....			180	300
Grand total.....			480	

HS	3	Hygiene and Sanitation, Field Care of troops on the march
TACT	1	Tactics, medical field Field first aid stations, evacuation of casualties and map reading.
TACT	2	Drill March and maneuver drills.
TACT	3	Marine Corps Organization Special duties with Marine Corps units.
CHEM	6	Chemical Warfare Types of chemical agents and the treatment of casual- ties from chemical agents.

Text: Handbook of the Hospital Corps, U. S. Navy, chapter VI
section 7.

Drill Book for the Hospital Corps, U. S. Navy.

CERTIFICATE IN MEDICAL PHOTOGRAPHY (Qualified Assistant)

			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
PHOT	1	Photographic Technic.....	30	200
PHOT	2	Photographic Processing.....	25	225
PHOT	3	Photo-copying Lantern Slide technic.....	15	200
PHOT	4	Photomicrography and Color Photography.....	12	140
PHOT	5	Lantern and Movie Projection.....	6	100
PHOT	6	Photofluorography.....	2	5
			<hr/>	
Total hours.....			90	870
Grand total.....			960	

PHOT	1	Photographic Technic
		Basic principles of Photography.
PHOT	2	Photographic processing
		Processing technic and Photographic Chemistry.
PHOT	3	Photo-copying Lantern Slide technic
		Photo and lantern slide copying and processing.
PHOT	4	Photomicrography and Color Photography
		Applied photomicrograpny and color technics.
PHOT	5	Lantern and Movie projection
		Principles of projection, apparatus and technic.
PHOT	6	Photofluorography
		Basic principles of Photofluorography and processing.

Reference: Basic Photography—War Department—TM 1-219. July 1, 1941.

Elementary Photography—Gilford G. Quarles.

(McGraw-Hill Book Co., Inc., New York.) 1940.

Photomicrography—R. M. Allen, D. Van Nostrand Co., Inc., N. Y., 1943.

CERTIFICATE IN NEUROPSYCHIATRY (Technologist)

		<i>Subjects</i>		<i>Clock hours</i>	
				<i>Didactic</i>	<i>Practical</i>
NP	1	Rules and Regulations.....	20		
MSFA	4	First Aid.....	30		
NP	2	Management of Psychiatric Patients.....	50		860
				<hr/>	
		Total hours.....	100		860
		Grand total.....		960	

- NP 1 Rules and Regulations
 Introduction to neuropsychiatric problems and special
 rules and regulations.
- MSFA 4 First Aid
 Practical training in first aid with emphasis upon in-
 juries of mental patients.
- NP 2 Management of Psychiatric Patients
 Ward service, attendance at clinics, special therapies
 and general psychiatric nursing.

Text: Principles of Psychiatric Nursing, M. E. Ingram, 1939. W. B.
 Saunders Company, Philadelphia, Pa.

CERTIFICATE IN NEUROPSYCHIATRY CLERICAL PROCEDURES (Qualified Assistant)¹

<i>Subjects</i>			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
NP	1	Rules and Regulations.....	20	
NP	3	Psychiatry.....	12	
NP	4	Preparation of Psychiatric Cases.....	10	224
CLER	3	Navy Filing.....	10	120
CLER	4	Preparation of Official Forms.....	20	200
PS	1	Psychology, applied.....	24	
Total hours.....			96	544
Grand total.....				640

NP	1	Rules and Regulations Introduction to neuropsychiatric problems and special rules and regulations.
NP	3	Psychiatry Clinical aspects of psychiatric patients.
NP	4	Preparation of Psychiatric Cases Training in preparation of neuropsychiatric cases.
CLER	3	Navy Filing Training and practice in accordance with the U. S. Navy Filing Manual.
CLER	4	Preparation of Official Forms Training in the preparation of forms used by the Medical Department and the several bureaus.
PS	1	Psychology, applied Specialized psychology.

References: Handbook of the Hospital Corps, U. S. Navy.
Manual of the Medical Department.
Textbook of Psychiatry by Noyes & Hayden.
Psychiatric Word Book, Richard Hutchings, Utica Press,
Utica, N. Y.

¹ Prerequisite: Proficiency in typing and shorthand.

CERTIFICATE IN OCCUPATIONAL THERAPY **(Qualified Assistant)**

		<i>Subjects</i>	<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
AP	7	Anatomy and Kinesiology.....	12	
NP	3	Psychiatry.....	12	
PS	1	Psychology, applied.....	24	
OT	1	Occupational Therapy, Theoretical.....	32	
OT	2	Occupational Therapy Skills.....		100
OT	3	Occupational Therapy, Clinical Practice.....		300
Total hours.....			80	400
Grand total.....			480	

AP	7	Anatomy and Kinesiology	
		Review of anatomy and physiology, with emphasis upon muscle and nerve functions.	
NP	3	Psychiatry	
		Clinical aspects of psychiatric patients.	
PS	1	Psychology	
		Specialized psychology.	
OT	1	Occupational Therapy, Theoretical	
		Principles of restorative procedures.	
OT	2	Occupational Therapy Skills	
		Training in arts and crafts and the use of occupational therapy equipment.	
OT	3	Occupational Therapy, Clinical Practice	
		Application of special skills and technic with patients.	

Text: Handbook of the Hospital Corps, U. S. Navy.

Reference: Manual of Occupational Therapy, American Medical Association.

CERTIFICATE IN OFFICE ADMINISTRATION (Associate)

		<i>Subjects</i>	<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
CLER	3	Navy Filing.....	35	350
CLER	4	Preparation of Official Forms.....	60	500
CLER	5	Mailing.....	30	200
CLER	6	Laws, Regulations, and Procedure.....	35	350
ADM	2	Administration.....	35	325
Total hours.....			195	1,725
Grand total.....			1,920	

- CLER 3 Navy Filing
Training and practice in accordance with U. S. Navy Filing Manual.
- CLER 4 Preparation of Official Forms
Training in the preparation of forms used by the Medical Department and the several bureaus.
- CLER 5 Mailing
Procedures for handling of official mail.
- CLER 6 Laws, Regulations and Procedure
Detailed study of all pertinent laws and regulations and general clerical procedures.
- ADM 2 Administration
Training and practice in official correspondence and general administrative policy.

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XI, section 11.

References: U. S. Navy Regulations.
Manual of the Medical Department.
U. S. Navy Filing Manual.
Manual Bureau of Naval Personnel.
Bureau of Supplies and Accounts Manual.
Court Martial Orders.
Naval Courts and Boards.

CERTIFICATE IN OPERATING ROOM TECHNIC (Qualified Assistant)

		<i>Clock hours</i>	
		<i>Didactic</i>	<i>Practical</i>
OR	1 Sterilization	15	100
OR	2 Instruments	10	75
OR	3 Sutures	6	20
OR	4 Operating Room Technic, general	24	300
OR	5 Central Dressing Station Technic	50	300
OR	6 Plaster and Plaster Splint Technic	10	50
		<hr/>	
		Total hours	115 845
		Grand total	960

- OR 1 Sterilization
Principles of sterilization, operation of sterilizers and aseptic technic.
- OR 2 Instruments
Designations, care, repair, and storage of surgical instruments.
- OR 3 Sutures
Types, uses, and preparation of surgical sutures.
- OR 4 Operating Room Technic, general
Progressive training for assistance in the operating room.
- OR 5 Central Dressing Station Technic.
Preparation of materials and solutions, treatment trays, and dressing carriages.
- OR 6 Plaster and Plaster splint technic
Types and application of plaster, plaster bandages, and splints.

Text: Handbook of the Hospital Corps, U. S. Navy, chapter V, section 3.

PHARMACIST'S MATES CERTIFICATE

(Special Duty)

			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
<i>Subjects</i>				
CLER	9	Clerical Forms and Procedures.....	40	60
HS	4	Hygiene and Sanitation, Ship.....	40	15
MSFA	5	Minor Surgery and First Aid, Advanced.....	35	50
MSFA	6	Emergency Medical Care.....	30	45
PA	10	Property and Accounting, Ship.....	15	40
MMT	4	Materia Medica and Toxicology, Specialized.....	45	15
ADM	1	Independent Duty.....	40	10
Total hours.....			245	235
Grand total.....			480	

CLER	10	Clerical Forms and Procedures Preparation of reports, returns, forms, and official correspondence.
HS	4	Hygiene and Sanitation, Ship Sanitary measures aboard ship.
MSFA	5	Minor Surgery and First Aid, Advanced New and specialized measures.
NSFA	6	Emergency Medical Care Care of casualties at sea.
PA	10	Property and Accounting, Ship Procurement, accounting and preservation of stores.
MMT	4	Materia Medica and Toxicology, Specialized Therapeutic uses of drugs, with emphasis upon those available on small ships.
ADM	1	Independent Duty. Training in the duties, responsibilities and limitations of Hospital Corpsmen when serving on ships and sta- tions in the absence of Medical officers.

Text: Handbook of the Hospital Corps., U. S. Navy, and addendum.

CERTIFICATE IN PHARMACY—CHEMISTRY (Qualified Assistant)

			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
PHAR	2	Pharmaceutical Arithmetic.....	60	
CHEM	4	General Chemistry, advanced.....	108	180
PHAR	3	Principles of Pharmacy.....	160	
MMT	2	Materia Medica and Toxicology, advanced.....	60	
CHEM	5	Organic Pharmaceutical Chemistry.....	50	82
PHAR	4	Operative and Dispensing Pharmacy.....	90	310
CHEM	2	Qualitative Chemistry.....	30	140
CHEM	3	Quantitative Chemistry.....	20	150
			<hr/>	
Total hours.....			578	862
Grand total.....				1,440

PHAR	2	Pharmaceutical Arithmetic		
		The systems of weights and measures and the mathematics of pharmacy.		
CHEM	4	General Chemistry, advanced		
		Fundamentals of inorganic and organic chemistry.		
PHAR	3	Principles of Pharmacy		
		Pharmaceutical processes and the preparation of official products.		
MMT	2	Materia Medica and Toxicology, Advanced		
		Uses and doses of drugs and poisons and antidotes.		
CHEM	5	Organic Pharmaceutical Chemistry		
		Applied chemistry.		
PHAR	4	Operative and Dispensing Pharmacy		
		Preparation of official medicinals and compounding prescriptions.		
CHEM	2	Qualitative Chemistry		
		Testing of drugs, chemicals, and pharmaceuticals.		
CHEM	3	Quantitative Chemistry		
		Assay of drugs, tablets, pharmaceuticals, and other quantitative estimations.		

Text: Handbook of the Hospital Corps, U. S. Navy, chapter VIII, chapter IX, chapter IV, chapter V, section 1.
United States Pharmacopoeia, XII.
National Formulary, VII.

CERTIFICATE IN PHYSICAL THERAPY (Technologist)

		<i>Clock hours</i>		
<i>Subjects</i>		<i>Didactic</i>	<i>Practical</i>	
PHT	1	Mechanotherapy and Exercise.....	20	100
PHT	2	Hydrotherapy.....	20	80
PHT	3	Light and Electrotherapy.....	20	80
PHT	5	Massage.....	40	280
		Total hours.....	100	540
		Grand total.....	640	
PHT	1	Mechanotherapy and Exercise		
		Theory and practice of mechanotherapy.		
PHT	2	Hydrotherapy		
		Operation and application of baths.		
PHT	3	Light and Electrotherapy		
		Types of equipment and clinical application of electrotherapy.		
PHT	5	Massage		
		Systematic therapeutic friction, stroking and kneading of the body.		

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XII, section 10.

CERTIFICATE IN PROPERTY AND ACCOUNTING ADMINISTRATION

(Associate)

		<i>Subjects</i>	<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
PA	3	Elementary Accounting.....	70	200
PA	4	Fiscal Accounting.....	50	150
PA	5	Procurement.....	50	200
PA	6	Receipt and Inspection of Property.....	50	200
PA	7	Property Accountability.....	50	150
PA	8	Ship and Station Accounting.....	50	150
PA	9	Hospital Accounting.....	100	300
CLER	8	Reports.....	50	100
Total hours.....			470	1,450
Grand total.....			1,920	

PA	3	Elementary Accounting	The theory and application of Governmental accounting.	
PA	4	Fiscal Accounting	The Federal Budgetary System.	
PA	5	Procurement	Methods of procuring equipment and supplies.	
PA	6	Receipt and Inspection of Property	Receiving records and inspection of equipment and stores.	
PA	7	Property Accountability	The storage, preservation and issue of equipment and stores, and the records required to establish accountability.	
PA	8	Ship and Station Accounting	Forms and procedures.	
PA	9	Hospital Accounting	The accounting records maintained in a Naval Hospital.	
CLER	8	Reports	Required financial reports and returns.	

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XI, section 2.

CERTIFICATE IN PROPERTY AND ACCOUNTING (Qualified Assistant)

		<i>Subjects</i>	<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
CLER	1	Typing.....		500
PA	1	Bookkeeping.....	60	300
PA	2	Storage of Equipment and Supplies.....	20	700
CLER	3	Navy Filing.....	12	130
CLER	2	Records and Correspondence.....	18	180
Total hours.....			110	1,810
Grand total.....				1,920

- CLER 1 Typing
Training and practice in touch system typing.
- CLER 3 Navy Filing
Training and practice in filing in accordance with Navy Department Regulations and U. S. Navy Filing Manual.
- PA 1 Bookkeeping
Principles of Navy accounting.
- PA 2 Storage of Equipment and Supplies
Methods of storing, preserving and issuing equipment and stores.
- CLER 2 Records and Correspondence
Preparing of reports, records and official correspondence.

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XI, section 2.

CERTIFICATE IN SUBMARINE SERVICE (Qualified Submariner)¹

<i>Subjects</i>			<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
MSFA	7	Medical Aid and Minor Surgery.....	56	90
HS	5	Hygiene and Sanitation, Submarine.....	12	2
CLER	10	Clerical Procedure.....	8	4
MMT	5	Materia Medica and Dental Aid.....	10	10
ND	2	Emergency Nursing.....	4	24
BACT	13	Diagnostic and Laboratory Procedure.....	10	10
Total hours.....			100	140
Grand total.....			240 ¹	

MSFA	7	Medical Aid and Minor Surgery	Emergency medical and surgical procedures in the absence of medical officers.	
HS	5	Hygiene and Sanitation, Submarine	Principles of health applied to conditions peculiar to submarines.	
CLER	10	Clerical Procedure	Preparation of reports, correspondence and records.	
MMT	5	Materia Medica and Dental Aid	Therapeutics and emergency dental treatment.	
ND	2	Emergency Nursing	Nursing care aboard submarines	
BACT	13	Diagnostic and Laboratory Procedure	The symptoms, diagnosis and treatment of disease and clinical laboratory tests.	

Text: Handbook of the Hospital Corps, U. S. Navy and Addendum.

References: Manual of Naval Hygiene, 1943

Treatment is General Practice, Beckman

Textbook of Medicine, Cecil

BuMed News Letters

Supplemented by six (6) weeks instruction in Basic Submarine School.

CERTIFICATE IN X-RAY TECHNIC (Technologist)

		<i>Subjects</i>	<i>Clock hours</i>	
			<i>Didactic</i>	<i>Practical</i>
XR	2	Introduction to X-Ray Technic.....	100	100
XR	3	Film, Screen and Dark Room Procedures.....	100	100
XR	4	Radiographic Technic.....	100	130
XR	5	Special Procedures.....	50	100
XR	6	Office Routine.....	50	130
Total hours.....			400	560
Grand total.....			960	
XR	2	Introduction to X-Ray Technic Basic principles of electricity and x-ray.		
XR	3	Film, Screen and Dark Room Procedures Methods of operation.		
XR	4	Radiographic Technic Film processing.		
XR	5	Special Procedures Electrical and x-ray safeguards and special technics.		
XR	6	Office Routine Special office and clerical procedures.		

Text: Handbook of the Hospital Corps, U. S. Navy, chapter XII,
section 12.

DEPARTMENTS OF INSTRUCTION AND OUTLINES OF HOSPITAL CORPS COURSES

DEPARTMENT OF ADMINISTRATION

ADM 1 Independent duty.—

Discussion and interpretation of duty independent of Medical officers.

Relationship between the Hospital Corpsman and crew.

Responsibility of Hospital Corpsmen performing duty independent of Medical officers.

Limitations of the Hospital Corpsman on independent duty.

Contents and uses—prepared Medical Kits.

Instruction of crew on Venereal diseases.

ADM 2 Administration.—

Preparation and execution of official correspondence and endorsements, social correspondence, both formal and informal, by routine desk assignment rotation. Administrative policy; personnel and records office practice.

DEPARTMENT OF ANATOMY AND PHYSIOLOGY

AP 1 Anatomy and Physiology.—

Cell structure and reproduction.

Osteology—structure and function of bones; location; articulation.

Myology—location and function of important muscles; structure and location of joints, tendons, fasciae.

Blood—composition and functions; circulatory system; structure and location of heart; arteries, veins and capillaries.

Respiratory system—respiration; structure; location and function of component parts.

Digestive system—structure, location and function of component parts; enzymes.

Lymphatic system—lymph and lymph vessels and their function.

Spleen and ductless glands—structure, location, function.

Genito-urinary system—structure, location and function.

Nervous system—brain, nerves, ganglia, function.

Organs of special senses—eye, ear, etc.

AP 2 Anatomy and Physiology, specialized.—

Physiological and psychological factors in conditions affecting aviators—*anoxia*; cold; *aeroembolism*.

History of *anoxia*: A study of the contents and attributes of atmospheric and alveolar air; the transportation of oxygen; the mechanism of breathing; discussion of the Gas Laws of volume and temperatures; partial pressures—effects produced by lowered barometric pressures of higher altitudes; manifestations—causes of *anoxia* and cold; factors affecting the ceiling of man and detrimental to the health of pilots; fatigue and how controlled; *aeroembolism*—the physical laws underlying it, its manifestations and control.

Eye and Adnexa

Elementary optics—vision, mechanism of accommodation, refractive errors, *amblyopia*.

Examination methods—visual acuity; depth perception, color, perimetry, accommodation and refraction; retinoscopy.

Extraocular muscles—origin, insertion, nerve supply and action.

Physiology of ocular movements; binocular fixation.

Heterophoria; *heteroptrophia*—cause and diagnosis; *phorometry*; determination of muscle strength and tangent curtain diagnosis.

Ear

Anatomy and physiology of hearing.

Methods of determination.

Vestibular mechanism—determination of function by Barany chair.

Heart

Anatomy and physiology.

Principles of cardiac efficiency.

Pulse and blood pressure determinations—circulatory efficiency.

Normal and abnormal reactions to low oxygen tension.

Lungs

Anatomy and physiology.

Responses to low oxygen tension.

AP 3 Anatomy, oral.—

Review of AP 1.

Mouth:

Bones—muscles; attachments; blood and nerve supply; ligaments.

Hard and soft tissue areas; formina.

Muscle attachments; nerve and blood supply and ligaments.

AP 4 Anatomy, dental.—

Identification—characteristics, of teeth of dentition.

Tooth carving—celluloid; soap.

Types of teeth used for dentures: Trubyte; Austenal; Hall's inverted cusps; Myerson's teeth; French's posteriors.

AP 5 Physiology.—

Review of AP 1.

Advanced physiology of respiration.

Respiratory system.

Circulatory system.

AP 6 Physiology of Circulation.—

Review of AP 1.

General physiology and dynamics of the circulation.

The conduction system of the heart.

The electromotive forces accompanying the heart beat.

Tracing of the stimulus and measurement through the string of oscillographic machines.

The normal tracing; the waves—the intervals.

The four extra precordial leads.

Arrhythmias.

The sound tracing.

AP 7 Anatomy and Kinesiology.—

Review of AP 1.

Muscles

Striated.

Nerve supply.

Nerve action.

Non-striated.

Nerve supply.

Nerve action.

DEPARTMENT OF BACTERIOLOGY AND PATHOLOGY

BACT 1 Bacteriology and Elementary Laboratory Technic.—

Care and use of microscopes and laboratory equipment.
Classification of micro-organisms.
Stains and staining; culture media and culturing.
Technic of simple stains—Gram stain.
Hemaglobin estimation; coagulation and bleeding time estimation.
Red cell count; white cell count; differential white cell count.
Urinalysis.

BACT 2 Bacteriology, oral.—

Morphologic forms of the principal normal and pathogenic oral bacteria. Infection, resistance, immunity. Factors essential to the life of oral bacteria—their action. Bacteria of dental caries; paradontosis; some diseases of the mouth and focal infection. Sterilization methods and self sterilizing factors in the mouth. Methods of making smears with staining procedure. Technic for obtaining root canal cultures. Manipulation of the microscope.

BACT 3 Media.—

Preparation of stains; media. Methods of titration.
Preparation and selection of indicators; sterilization of carbohydrates.
Selection of media; culturing organisms.
Blood, urine, stool, exudate, cultures.
Agglutination; special serological procedures.
Animal inoculations.

BACT 4 Bacteriology.—

Review of BACT 1.
Saprophytic and pathogenic bacteria—morphology; physical growth.
Precipitation; agglutination tests.
Preparation of bacterial antigens and vaccines; standardization.
Bacteriological examinations of water and milk.
Staining technics; special culture media.
Use of microscopes; laboratory equipment.
Methods for identification of bacteria. Staining methods.
Acidfast examination of sputum.
Sputum concentration for tubercle bacilli.
Eye smears; stool cultures; agglutination tests; water analysis; milk analysis; urethral smears; prostatic smears; urine cultures; blood cultures; preparation of vaccines; smears and cultures of exudates; throat smears and cultures; dark field examinations.

Fungi cultures and wet preparations.
Animal inoculations.
Pleumococcus typing; Sputum cultures.
Vincent's angina preparations.

BACT 5 Serology.—

Complement fixation and precipitation tests.
Necessity for standard methods.
Collection of blood specimens; preparation for shipment.
Technic of Kahn test; preparation of antigen and saline.
Qualitative; quantitative; presumptive Kahn tests.
Spinal fluid examination. Cell count; globulin; albumin examinations.
Collodial gold test. Kahn and Wassermann reactions. Blood sedimentation. Cutler method. Blood grouping—cross matching; hemolysis.
Complement fixation in diagnosis of bacterial and echinococcus infections.
Inoculation; bleeding of laboratory animals.
Wassermann test—Neill modification.
Complement fixation tests—echinococcus; gonococcus.

BACT 6 Hematology.—

Physical properties and functions of the blood.
Bleeding time; coagulation time; retractibility of the clot.
Blood cells—origin; classification; staining reactions.
Cell counting—enumeration.
Red cells; pipettes and counting chambers.
White cells; pipettes and counting chambers. Counting; enumeration.
Differential white count; Schilling's method.
The blood indexes.
Color, hemoglobin; volume index; saturation index; icterus index; cell pack—Wintrobe hematocrit.
Blood staining—collection, preparation, and staining of films.
Peroxidase staining and counting.
Fragility test.
The blood picture; Schilling's hemogram; blood picture in anemia.

BACT 7 Pathology.—

Origin of tissues in relation to the human body.
Differential features in normal histology.
Definitions of terms used in histopathology.
Methods of reducing material for microscopic study.
Paraffin methods of embedding tissue.
Care and use of microtomes, knives, and other equipment.
Routine and special stains used in histopathological laboratory.
Technic of frozen sections. Preparation of museum specimens.
Autopsy technic. Care of the cadaver.

BACT 8 Medical Parasitology.—

Identification of malaria blood and tissue parasites; intestinal protozoa; flagellates, cestodes; nematodes; trematodes; identification and life histories of the common insects of medical importance.

Malaria—life cycle of malarial parasite in the human host and in the mosquito.

Methods of diagnosis and differentiation of the three important human *Plasmodium* species in thin blood smears.

Characteristic forms of *Plasmodium*—*P. vivax*, *P. malariae*, and *P. falciparum*.

Blood and tissue flagellates—morphology and life histories of important members of the Trypanosomidae; demonstration of stained smears and forms in tissue of *Trypanosoma*—*rhodesiense*, *T. gambiense*, *T. cruzi*; *Leishmania*—*L. donovani*, *L. tropica* and *L. braziliensis*; living *T. equiperdum*—*T. gambiense*, *T. cruzi*, the leishmania stage of *T. cruzi* in heart muscle; *L. tropica* in skin sections.

Helminths—characteristics of flukes, tapeworms, and nematodes. Trematodes—life cycle; morphology; means of identifying and methods of preparing. Characteristics of eggs and cercaria—methods of obtaining; identifying eggs and cercaria.

Cestodes—life cycle, morphology and methods of obtaining and identifying the tapeworms. *Diphyllobothrium latum*; *Taenia saginata*; *T. solium*; *Dipylidium caninum*; *Hymenolepis nana*, *H. diminuta*.

Nematodes—life cycle of *Filaria*—morphology; methods of obtaining and identifying intermediate hosts; life histories of intestinal nematodes of man. Morphology.

Demonstration of the important adult nematodes. Infections^m of helminth eggs and larvae in feces.

Intestinal Protozoa—life history of *Endamoeba histolytica*; methods of distinguishing in fecal smears.

Insects—classification; external morphology of insects and Arachnids. Hemiptera; Anoplura; Diptera; Siphonaptera; Acarina.

Identification of fleas, lice, and bugs of medical importance; disease relationships. Role of ticks and mites in diseases.

Biology of mosquitoes—Identification of eggs, larvae, and pupae of three genera of medical importance, i. e., *Anopheles*, *Aedes*, and *Culex*.

BACT 9 Blood and Clinical Chemistry.—

Survey of elementary, qualitative, organic, and quantitative chemistry.

Blood and urine chemistry

Tests—Blood nonprotein nitrogen.

Total urine nitrogen.

Sugar; blood; urine; spinal fluid.

Synovial fluid; abdominal and pleural exudates.

Urea nitrogen—blood and urine.

Chlorides—blood, urine and spinal fluid.

Cholesterol; uric acid.

Blood—CO₂; pyrotannic acid; ethyl alcohol; icterus index.

Hexoses—fermentation. Osazone tests.

Bromsulphalein; Van der Bergh; Indican tests.

Phenolphthalein and Mosenthal tests.

Gastric secretions.

Serum albumin and protein.

Calcium in blood and urine.

Tryptophan in spinal fluid.

Urine and gastric analysis, duodenal drainage.

Albumin—qualitative; quantitative. Specific gravity.

Sugar—qualitative; quantitative.

Microscopic examinations.

Arsenic; lactic acid; free HCl; total acidity; lead in urine;
occult blood; Ketone bodies.

Barbiturates; osazones; total solids; fermentation tests.

Kidney function tests.

Endocrinology.

Ascheim-Zondek test—Friedman modification.

BACT 10 Clinical Laboratory Technic.—

Technic of drawing blood.

Kahn tests.

Blood typing.

Blood counts and staining methods.

Urinalysis.

General microscopic examinations.

BACT 11 Pathology, Oral.—

Microscopic and macroscopic appearance of a diseased or abnormal enamel cuticle, enamel, dentin, pulp, cementum, epithelial attachment, parodontium, alveolar bone, alveolar process, and mucous membrane of the mouth. Etiologic factors in dental caries, parodontosis and some diseases of the mouth. Periapical disturbances; fractured jaws.

Clinical appearance of oral tissues principally in Vincent's infection, avitaminoses, endocrine and blood disturbances; some more common benign and malignant tumors, common jaw swellings, and their diagnosis.

BACT 12 Bacteriology and Immunology, Advanced.—

Review of BACT 1.

Principles of pathogenic bacteriology and the related immunology.

Training in the procedures employed in studying filterable viruses.

The investigation and management of epidemic diseases.

BACT 13 Diagnostic and Laboratory Procedure.—

Diagnostic tests.

History: Past; present.

Symptoms.

Physical review.

Blood typing.

Cross matching.

Urinalysis.

Microscopic examinations.

DEPARTMENT OF CHEMISTRY

CHEM 1 Elementary Chemistry.—

History of chemistry—terms and definitions.
Chemical processes—classification of matter; energy.
Chemical laws—application; oxidation; reduction; ionization.
Elements—symbols; valence.
Atoms; molecules; atomic and molecular weights; equations.
Chemicals formulas; chemical arithmetic.
Inorganic compounds; organic compounds.
Chemistry in the hospital corpsman's activities.

CHEM 2 Qualitative Chemistry.—

Principles of qualitative analysis.
Groups; metals; nonmetals; acids; oxidation; reduction.
Ionization theory; solubility product; precipitation.
The Periodic Table.
Common ion effects; hydrolysis; pH.
Preparation of and use of reagents.
Testing strength, identity, quality and purity of drugs used by the medical department.

CHEM 3 Quantitative Chemistry.—

Instruments of precision—calibration of weights, sensitivity and zero point of balances.
Theory and selection of indicators.
Hydrogen ion concentration.
Common ion effect; reversible reactions; neutralization.
Molar solutions; standard solutions.
Volumetric and gravimetric procedures; precipitation; oxidation; reduction; gasometric; physico-chemical.
Special analytical methods.
Acid and ester numbers; saponification; iodine values.
Testing and assaying of drugs and pharmaceuticals.

CHEM 4 General Chemistry, Advanced.—

Review of CHEM 1.
Selection and care of laboratory apparatus.
Application of fundamental laws of chemistry and physics.
Applied inorganic and elementary organic chemistry.
Specific gravity and specific volume.
Chemical mathematics.

CHEM 5 Organic Pharmaceutical Chemistry.—

Introduction to organic chemistry—processes; formulas.
Halogen compounds; alcohols and derivatives.
Aldehydes; ketones; acids and derivatives; hydroxy; polybasic acids; amines and other nitrogen compounds.

Compounds of sulfur; carbohydrates; benzene and homologues.
Substitution products; amine and diazo derivatives.
Phenols; alcohols; aldehydes; ketones; heterocyclic compounds.
Alkaloids; dyes; glycosides; proteins; steroids.

CHEM 6 Chemical Warfare.—

General considerations.

Methods of using chemical agents; weather conditions; gas masks; special clothing; properties of chemical agents; prophylactic measures; fundamentals of treatments. Methods of recognizing gases. Contamination of food, water, and supplies.

Chemical agents:

Lung irritants—

Phosgene; chlorpicrin; chlorine.

Vesicants—

Mustard; lewisite; ethyldichlorasine.

Lacrimators—

Chloracetophenone; brombenzyl cyanide.

Irritant smokes (sternutators)—

Adamsite; diphenylchlorasine.

Screening smokes—

White phosphorus; titanium tetrachloride; sulfur trioxide; chlorsulfonic acid solution; HC mixture.

Incendiary agents—

Thermite; oil and metal incendiaries; electron bomb.

Systemic poisons—

HCN; arsine; hydrogen sulfide.

Incidental gases—

Carbon monoxide; nitrous fumes; ammonia.

Treatment—

Pathology; symptoms; diagnosis; immediate treatment; burns; oxygen therapy; venesection; prognosis.

DEPARTMENT OF CLERICAL STUDIES

CLER 1 Typing.—

Training and practice in touch typing.

CLER 2 Records and Correspondence.—

Preparation of pertinent reports, records, and forms.

Preparation of official correspondence.

CLER 3 Navy Filing.—

Training and practice in filing in accordance with Navy Department Regulations and U. S. Navy Filing Manual.

CLER 4 Preparation of Official Forms.—

Bureau of Naval Personnel forms, as listed in BUNavPers. Manual.

Bureau of Supply and Accounts forms as listed in BuS&A Manual. Letter forms of the Medical Department, as listed in Chapter 23 (Reports and Returns), Sections 1, 2, 3, 4, 5, and 6, Article 3401 to 3555, inclusive. Rotated desk and study periods.

CLER 5 Mailing.—

Official titles and addresses of the various bureaus, naval districts, and location; knowledge of ships' characteristics—battleships; cruisers; destroyers; repair ship; tenders; tugs; hospital ships; etc. Familiarize different types of mail—guard mail; registered mail; messenger mail under guard; air mail; etc., how handled. Routine desk assignment.

CLER 6 Laws, Regulations, and Procedures.—

The Health Record—entries, including the writing of ward clinical medical histories. The execution and the procedure of the various benefits to enlisted personnel, both staff and patients.

Government Insurance; Navy Relief; transfer to Fleet Reserve, and classes thereto.

Medical treatment of dependents.

Special requirements of certain schools—instruction and knowledge of promotion; training courses; special requests, etc., desk rotations and outlined study courses. Names and abbreviation of all naval ranks and ratings according to pay grades as outlined in Bureau of Medicine and Surgery Manual, appendix D, circular letter R.

CLER 7 Reports and Returns.—

Special reports and returns to Bureau of Aeronautics and Bureau of Medicine and Surgery. Typing.

CLER 8 Reports.—

Bureau of Supplies and Accounts returns, Bureau of Medicine and Surgery returns; miscellaneous reports and returns.

CLER 9 Clerical Forms and Procedure.—

Medical Department forms.

Official letters, endorsements, and reports.

Health records.

Routine and special reports (station and ships).

M&S Manual, BuPers Manual, Navy Regulations.

Current directives, Navy Department bulletins, AlNavs.

CLER 10 Clerical Procedure.—

General correspondence: Official letters, etc.

Health records: Type of entries, abstracts and medical history; when misconduct and not misconduct; admission to sick list; disposition, abbreviations used, key letters; extension of enlistment and reenlistments.

Form "F" cards: Instruction in preparing and forwarding.

Reports: Monthly, quarterly, and annual.

Reports when necessary: NMS Form "G"; NMS-HC 3; NMS form "N"; NMS form "U"; report of killed or wounded, letter form; bill of health, when and from whom obtained; epidemiological. Requisition and accountability of supplies for ships without SD allotment.

DEPARTMENT OF COMMISSARY

COMM 1 Accounting, Commissary.—

Administration.

NMS Hospital Form 23. Bureau Supplies and Accounts Forms
71, 71A, 44, 44A.

Posting of commissary ledger from R. & E. vouchers.

Totaling of ledger accounts.

COMM 2 Procurement.—

Preparation of receipt and expenditure vouchers.

Sources of supply.

Orders, payments, and accounts.

COMM 3 Management, Commissary.—

Schedules of cook's and mess attendants' details and hours.

Supervision of issue.

Costs of rations.

Personnel supervision.

COMM 4 Food Inspection and Grading.—

Inspection of provisions.

Daily inspection of fresh provisions—fruits; vegetables.

Department of Agriculture standards for meats—produce; butter;
cheese; eggs; poultry.

Dairy products.

Food; animal anatomy.

COMM 5 Menu Planning.—

Preparation of menus; orders.

Caloric and vitamin values.

COMM 6 Storage of Subsistence.—

Inventories; storage.

Storeroom supervision.

Dealers' invoices.

DEPARTMENT OF DENTAL TECHNIC

DENT 1 Dental Technology.—

The dental record—use, method of indicating the presence of:
Types of restorations; carious, abscessed, impacted, and unerupted teeth; gingival disturbances; fistula; malocclusion; cysts; roots and diseased conditions of the oral hard structures and soft tissues. Method of recording subsequent dental operations.

Monthly and annual reports of dental operations.

Care of dental equipment and instruments and their use.

Description and manipulation of cements and amalgams.

Emergency dental treatment. Assisting the dental officer at the chair. Routine dental operating room activities, before, during, and after patient treatment.

Oral Surgical Procedures.

DENT 2 Odontography.—

Dental nomenclature—description of the internal and external form of teeth and their supporting tissues and structures; movement of teeth, their inclination and function.

Tooth carving.

DENT 3 Case Survey and Design.—

Types of clasps and bars—cast, wrought, and combinations.

Surveying costs for construction of clasps, bars, rests, and stabilizers when using precious and nonprecious metals.

Bridge abutments and replacement form.

DENT 4 Crown and Bridge.—

Manipulation of impressions; making dies, waxing, carving, investing, casting, soldering, finishing, and polishing.

Ceramics in construction of crowns and inlays; staining and baking porcelain.

Construction of crowns and bridges, and inlays in acrylic resins and combinations of metal and acrylic resins.

DENT 5 Instruments and Materials.—

Type, use, care of, and sterilization of instruments.

Chair technic in prosthodontia.

Description, physical and chemical properties, use and manipulation of—plaster, investment, compound, waxes, colloids, acrylic resins, vulcanite and metals (precious and nonprecious).

DENT 6 Metallurgy, Dental.—

Physical and chemical properties of precious and nonprecious metals.

Waxing, investing, casting, soldering, heat treatment, spruing, finishing and polishing.

DENT 7 Processing and Laboratory.—

Boxing of plaster, compounds and colloidal, full and partial impressions.

Stone, plaster and metal cast pouring.

Full and partial bite blocks, waxing, setting up of teeth, carving, tin foiling, flasking, packing, curing, polishing and finishing of dentures.

Articulators—description and use of various types.

DS 1 Dermatologic diagnosis.—

Skin lesions.

Types.

Differential diagnosis.

Mycology.

Allergy.

DS 2 Dermatologic Therapy.—

Dressings.

Types.

Indications.

Technic of application.

Vaccine therapy.

Heliotherapy.

Cryotherapy.

Electrosurgery.

DS 3 Diagnosis, Syphilis.—

Differential diagnosis.

Laboratory tests and routines.

Significance of reports.

Intracutaneous tests.

Diagnostic tests.

Venopuncture.

Spinal puncture.

DS 4 Treatment, Syphilis.—

Choice of agent.

Arsenic.

Heavy metals.

N. N. R. drugs.

Penicillin.

Preparation of drug.

Methods of administration.

Cautions.

Reactions.

DEPARTMENT OF DIVING

DIV 1 Diving.—

Qualifications for diving.

Study of Diving Manual.

Diving in pressure tanks under pressure equivalent to 300 feet;
open tank diving; operation of underwater tools.

DIV 2 Diving, advanced.—

Practical dives in mud.

Use of tools under working conditions.

Actual salvage work.

DIV 3 Shop Work.—

Practical training—use of divers' tools.

DIV 4 Submarine Rescue.—

Construction of submarine escape appliances; practical training
in the use of lung-application.

Practical use of escape chamber.

DIV 5 Helium-Oxygen Diving.—

Theoretical considerations.

Mixing and analysis of gases.

Actual dives up to 340 feet.

DIV 7 Compressed Air Illness.—

Calculation of decompression tables.

Causes, prevention, treatment of compressed air illness.

DIV 8 Diving Technology.—

Diving mathematics, divers' air pumps, pontoons, blueprint reading, telephones, cutting torches.

DEPARTMENT OF ELECTROCARDIOGRAPHY AND BASAL METABOLISM

ECG 1 Technic of Electrocardiography.—

- Electromechanics of oscillographic and string type machines.
- Developing.
- Testing and replacement of parts.
- Stethographic machines.
- Care of patients.
- Care of machines.

ECG 2 Metabolism and Oxidation.—

- Metabolism and oxidation.
- The basal state.
- Factors influencing basal metabolism.
- Indirect calorimetry.
- Technic of preparation.
- Technic of test.
- Clinical importance.

ECG 3 Basal Metabolism Machines.—

- Various types of machines.
- Testing and replacement of parts.
- Preparation and care of patients and care of machines.

DEPARTMENT OF ELECTROENCEPHALOGRAPHY

EEG 1 Basic Electricity.—

Elementary theory.

Theory of amplifier circuits.

Theory of electromagnetic and cathode-ray oscillography.

Resistance, Ohm's Law and Series Circuits.

Storage cells and their upkeep.

Electromagnetic theory.

Condensers and their action.

EEG 2 Anatomy and Diseases of the Brain.—

Electrical reactions to stimuli.

Electrical potentials of the brain.

Organic brain disease.

EEG 3 Technic of Electroencephalography.—

Operation of EEG machines.

Care of patients.

Electrode applications.

Handling of records.

Practical maintenance of machinery.

Minor repairs of instrument.

DEPARTMENT OF EPIDEMIOLOGY

EPID 1 Epidemiology.—

Principles; historic development; methods of epidemiology.

Training in field methods of collection, sampling, and analysis of data on epidemic and endemic diseases.

Military significance and application.

EPID 2 Vital Statistics.—

Intensive review of mathematics; fundamentals of algebra, logarithms, graphs, use of the slide rule, calculator and adding machine.

Statistical methods in human mortality, morbidity, and demography; averages, dispersions, curves and curve fitting; significance; correlation.

EPID 3 Parasitology and Entomology.—

Common laboratory methods of identification of the animal parasites of man and their arthropod vectors.

Epidemiology and control of parasites.

Study of malaria; methods of preparation for examination and identification of species in thick smears.

Identification and control of Anopheline vectors.

EPID 4 Sanitary Engineering.—

Principles of water sanitation and purification; sewage treatment and disposal; food and galley sanitation; milk sanitation; garbage collection and disposal.

Military aspects of insect and rodent control.

DEPARTMENT OF HISTOLOGY

HIST 1 Histology, oral.—

The derivation, microscopic appearance and function of the enamel cuticle, enamel, dentin, cementum, pulp, dental periosteum, alveolar bone, alveolar process, gingivae, epithelial attachment, and parodontium.

Odontogenesis.

Cellular and structural defense mechanism of the body.

DEPARTMENT OF HYGIENE AND SANITATION

HS 1 Hygiene and Sanitation.—

Personal hygiene; clothing.

Housing; air; ventilation; heating and lighting.

Water—source, purification and storage.

Sewage and refuse; garbage disposal.

Soil—its relation to health and disease.

Communicable diseases; practical preventive medicine.

Insects, vermin, rodents—their relation to disease.

Agents used in chemical warfare.

Recognition of gases.

Treatments.

HS 2 Hygiene, oral.—

Deposits and stains on teeth and artificial appliances; their position, composition, etiology and method of removal (oral prophylaxis).

Proper method of observing routine daily hygienic procedure; medication; instruction to the patient.

Normal oral tissue factors which maintain their health (saliva; inflammatory cells; epithelium cells; tissue areas; salivary duct openings; position of epithelial attachment; tongue; muscle action; vitamins and habits).

Differentiation between dental caries and deposits.

HS 3 Hygiene and Sanitation, field.—

Review of HG 1.

Waste disposal.

Insect control.

Care of troops on the march.

Water and food in the field.

Rigging and equipment of battalion first aid station.

Evacuation of casualties.

Prevention and management of epidemics.

HS 4 Hygiene and Sanitation, Ship.—

Food—inspection, handlers, galley.

Diseases—recognition, prevention and control.

Malaria—recognition, prevention and control.

Venereal diseases.

Chemical Warfare.

Care of the Dead.

HS 5 Hygiene and Sanitation, Submarine.—

Housing.

Heating, cooling, lighting, berthing.

Fumigation.

Ventilation.

Relative humidity, air velocity.

Gases—types:

Detection and treatment.

Carbon dioxide absorbent.

Reoxygenation of air.

Effects of increased pressure.

Water:

Source.

Purification.

Storage.

Food:

Storage.

Inspection.

Poisoning.

Vaccination and inoculation charts.

DEPARTMENT OF LOW PRESSURE CHAMBER

LPC 1 Operation of Chamber Controls.—

Training in the use of chambers.

Reaction to anoxia.

Method of resuscitation.

Operation of controls.

LPC 2 Oxygen Equipment.—

Construction, design, repair of equipment.

Bogens communication system.

Presto recorder and play-back instruments.

Operation of Millikan Oximeter and Cardiette Oximeter.

Electrocardiograph.

Flicker apparatus.

Other special equipment.

LPC 3 Use of Oxygen in Anoxia and Aeroembolism.—

Signs and symptoms of anoxia.

Oxygen as cure.

Prevention.

Denitrogenation.

Oxygen masks.

LPC 4 Pressure Chamber Technology.—

Sterilization of equipment.

Operation of special machinery and equipment.

High altitude flights; safety observer.

Records.

Bogen's communication system.

DEPARTMENT OF MALARIOLOGY

MAL 1 Malaria.—

Use of microscopes and staining of parasites.

Identification of parasites.

Parasites in relation to clinical symptoms.

MAL 2 Medical Entomology.—

Identification and classification of arthropods related to human disease.

Control of arthropods of medical importance.

Human diseases in which arthropods are involved.

MAL 3 Malaria Control.—

Mosquito control measures.

Mapping and Surveying.

Collection and preparation of specimens.

MAL 4 General Sanitation and Disease.—

Classification of Protozoa and Helminths.

Life cycles and epidemiology of intestinal parasites.

Field sanitation and control of intestinal diseases.

DEPARTMENT OF MATERIA MEDICA AND TOXICOLOGY

MMT 1 Materia Medica and Toxicology.—

Medical terms and definitions.
Therapeutic uses and administration of medicines.
Dosage—factors which affect dosage; dosage tables.
Classes of drugs—definitions; sources.
Physical and chemical properties of plant principles.
Classes of pharmaceutical preparations.
Toxicology—poisons; symptoms of poisoning; general treatment;
chemical mechanical and physiological antidotes.
The Supply Catalog, Medical Department, U. S. Navy.

MMT 2 Materia Medica and Toxicology, Advanced.—

Review of MMT 1.
Pharmacognosy.
Pharmacology and therapeutics of the important official and newer
drugs, especially those listed in the Supply Catalogue, Medical
Department, U. S. Navy.
Toxicology.

MMT 3 Materia Medica, Dental.—

Description; properties; toxicology and application in various oral
diseases of iodine, phenol, eugenol, zinc oxide, alcohol, mor-
phine, “sulfa” drugs.

MMT 4 Materia Medica and Toxicology, Specialized.—

Review of MMT 1.
Therapeutics and toxicology of essential drugs.
Use of medical supplies.
Care of medical stores.

MMT 5 Materia Medica and Dental Aid.—

Dosage, factors which affect; the limit or range of toxic drugs.
Therapeutic uses and administration of the drugs on the commis-
sioning allotment of Submarines.
Toxicology—poisons; symptoms of poisoning; general treatment;
chemical, mechanical, and physiological antidotes.
Detection and treatment of caries.
Emergency extractions.
Pericoronitis; treatment of.
Incising and irrigation of gum abscesses.
Diagnosing, treatment, and prevention of Vincent's Infection.

DEPARTMENT OF MEDICAL PHOTOGRAPHY

PHOT 1 Photographic Technic.—

Elementary Photography.
Cameras, type and operation.
Clinical Photography, interior and exterior subjects.
Portrait, flashlight and identification photography.
Optics, light meters and shutters.
Filters and their use.

PHOT 2 Photographic Processing.

Mechanics of development.
Photographic Chemistry.
Types of materials, films and plates.
Types of developing solutions and fixing solutions.
Contact and projection printing.
Photographic finishing and mounting.
Types of apparatus.

PHOT 3 Photo Copying, Lantern-Slide Technic.—

General photo copying, charts, graphs, photographs, printed material and x-rays.
Lantern slide duplication, film and glass slides.
Lighting technic, filter technic.
Reducing and enlarging.
Exposure and development.

PHOT 4 Photomicrography and Color Photography.—

The Microscope, its parts, uses and care of.
Optical system, condensers, objectives and eyepieces.
Types of illumination, reflected and transmitted.
Photomicrography camera equipment, use and care of.
Filters, color and light temperature meters.
Materials, monochromatic and color.
Exposure and processing technic.
Mounting of colored transparencies.

PHOT 5 Lantern and Movie Projection.—

Amateur movies.
Types of projectors, use and care of.
Projection technic.
Camera types and accessory equipment.
Lighting and exposure technic.
Lens choice and materials.
Film splicing and editing.

PHOT 6 Photofluorography.—

Fundamentals of photofluorography.
Camera technic and film processing.

DEPARTMENT OF MINOR SURGERY AND FIRST AID

MSFA 1 Minor Surgery and First Aid.—

Inflammation—causes, symptoms, and treatment.
Wounds; hemorrhage; shock.
Contusions; strains and sprains.
Dislocations; fractures.
Injuries due to heat and cold.
Removal of foreign bodies.
Asphyxia—artificial respiration.
Treatment of the apparently drowned; the electrically shocked.
Unconsciousness.
Acute abdominal conditions—symptoms and treatment.
Common emergencies—what to look for—what to do.
Bandages and bandaging—general rules: application and use.
Splints and fixation appliances: application.
Emergency dental treatment.
Dressings—shell wounds.
Transportation of the sick and injured.
Litter drills.

MSFA 2 First Aid, Specialized.—

Review of MSFA 1.
Treatment of injuries—hemorrhage; burns; wounds; chemical casualties; fractures; dislocations.
Shock.
Transportation of the injured.
Artificial respiration.
Equipment of first-aid pouches.
Equipment of ambulances.
Crash tools.
Sterile technique; suturing—using suture boxes and instruments.

MSFA 3 First Aid, Advanced.—

Review of MSFA 1.
Qualifying in use of rescue-breathing apparatus.
Resuscitation of apparently drowned.
Artificial respiration.

MSFA 4 First Aid.—

Self inflicted injuries; cutlery; lavatory equipment; ward furniture and clothing; bedding; injuries due to heat and cold.
Convulsive disorders and injuries.
Epileptic attacks and injuries.
Shock.
Strangulation.
Unconsciousness.
Common emergencies.

Transportation of patients.
Sedatives and hypnotics.
General first-aid measures.

MSFA 5 Minor Surgery and First Aid, Advanced.—

Safety engineering—Accident prevention.
Physical examinations.
Shock.
Wounds.
Hemorrhage.
Use of sulfa drugs, indications—toxic symptoms.
Burns.
Strains, sprains, dislocations.
Plasma.
Fractures.
Artificial respiration.
Battle dressings.
Transportation of wounded.
First aid equipment.
Emergency dental treatment.
Foreign bodies.
Self preservation, and first aid for the crew after abandon ship.
Instruction of crew.

MSFA 6 Emergency Medical Care.—

Surgical technic.
Nursing procedures.
Dietetics.
Communicable diseases and isolation.
Essential laboratory procedures.

MSFA 7 Medical Aid and Minor Surgery.—

Symptoms and treatment of disease.

Respiratory tract.
Intestinal tract.
Genito-urinary tract.
Venereal—non-venereal.

Skin.

Circulatory system.
Communicable.

Indications and counter-indications. for sulfonamides.

Non-operative treatment of appendicitis.

Treatment of injuries:

Hemorrhage.
Burns.
Wounds.
Chemical casualties.
Fractures.

Discolorations.
Blasts.
Concussions.
Shock.
Equipment of first aid boxes.
Sterile technic.
Suturing.
Instruments.
Administration of intravenous fluids.
Blood plasma.
Normal saline.
Dextrose.
Treatment of survivors.
OR treatment trays.
Scrub technic.
Plaster splints.
Local and topical anesthesia.
General anesthesia.
Preanesthesia medication.

DEPARTMENT OF NEURO-PSYCHIATRY

NP 1 Rules and Regulations.—

History of mental disease.
Causes of mental diseases.
Mental Hygiene.
Note-writing—special descriptive terms.
Care of patients' clothing and possessions.
Attendants' responsibilities.
General rules.

NP 2 Management of Psychiatric Patients.—

Clinical:

Psychosis on organic basis—senile; arteriosclerosis; Huntington's Chorea; post-encephalitis.
Paresis—cause; early symptoms; late symptoms; cause of disease; treatment by malaria.
Convulsive disorders—personality of epileptics; mental deficiencies; alcoholic psychosis; drug addiction; paranoid states.
The underactive patient: apathetic and depressed.
The overactive patient: confused; rational; apprehensive.
Neurological conditions.
War neuroses.

Nursing:

Problems of the aged, weak, and infirm.
Paresis and epilepsy.
Problems of alcoholic psychoses, drug addiction, and paranoid states.
Problems of underactive patients; suicidal precautions.
Problems of overactive patients; patients in seclusion.

Special Therapies:

Hydrotherapy; insulin; metrazol; hormones; psychodrama—electric shock; gavage; occupational and recreational therapies.

Ward Services:

Bedside stands; forbidden articles.
Lavatories; treatment rooms; hazards.
Dining rooms; food charts; hazards grooming patients.
TPR; tray; charting; special problems of mental patients.

NP 3 Psychiatry.—

Psychosis on organic basis—senile; arteriosclerosis; Huntington's Chorea; post-encephalitis.
Paresis—cause; early symptoms; late symptoms; course of disease; treatment by malaria.
Convulsive disorders—personality of epileptics; mental deficiencies; alcoholic psychosis; drug addiction; paranoid states.

The underactive patient: apathetic and depressed.
The overactive patient: confused; rational; apprehensive.
Neurological conditions.
War neuroses.

NP 4 Preparation of Psychiatric Cases.—

Psychiatric and Medical terms.
Preparation of NP- records.
Admission and Discharge Book.
Change of diagnosis slips.
Rebuttal statements of patients.
Survey papers.
Bag forms.
Transfers of patients.
Disposition of patients.
Letters to patient's family.
N-P routine.
Intelligence test.

DEPARTMENT OF NURSING AND DIETETICS

ND 1 Nursing and Dietetics.—

Ward management and routine; care of linen; charts.

Admission of patients—routine; charts; records; care of patients.

Bed making; fracture beds.

Bathing patient.

Temperature; pulse; respiration.

Administration of medicines—oral; rectal; parenteral; enemas.

A. m. and p. m. care.

Ether beds.

EEN&T nursing.

Use and care of equipment—sterilizers; syringes; rubber goods.

Surgical dressings.

Delirious patients—restraints.

Care of dying and dead.

Diabetics—diets; insulin; dosage; diabetic shock.

Classification of foods—proteins; carbohydrates; minerals; vitamins; energy values; diets; diet therapy; special methods of feeding.

ND 2 Emergency Nursing.—

Use and care of equipment.

Temperature, pulse, respiration, blood pressure; types and normals.

Treatments, preparation and administration of; EEN&T irrigations; eye drops and ointments; lavage; gavage; proctoclysis; catheterization; intravenous; hypodermoclysis; restraint; isolation technic aboard a submarine.

Classification of food; Proteins; carbohydrates; fats; minerals; vitamins; value of vitamins of extended war patrol.

DEPARTMENT OF OCCUPATIONAL THERAPY

OT 1 Occupational Therapy, Theoretical.—

Scope:

Orthopedic—Neuropyschiatric—Surgical—Medical cases.

Principles of treatment:

Objectives:

Restoration of joint function:

Graded activities—upper extremity.

Appropriate therapeutic arts and crafts: Carpentry (hand tools)—knotting—typing—ceramics—weaving, etc.

Graded activities—lower extremity.

Appropriate therapeutic arts and crafts: Carpentry (foot power tools)—weaving (foot power loom), etc.

Social adaptation:

Recreational therapy.

Manual arts and crafts.

Trade skills:

Shoe, radio, electrical, auto repairing.

Baking, textile and fabric services.

Bookbinding.

OT 2 Occupational Therapy, Skills.—

Training in crafts and skills, and in the use of occupational therapy equipment.

OT 3 Occupational Therapy, Clinical Practice.—

Supervised assistance and practice in the application of occupational therapy technics with patients.

DEPARTMENT OF OPERATING ROOM TECHNIC

OR 1 Sterilization.—

Types: Mechanical; chemical; dry heat; moist heat; boiling oil and water; steam under pressure.

Preparation of Materials: Utensils; instruments; dry goods; drapes; sponges; sutures; oils, wax and talcum.

Care of sterile materials.

Resterilization.

OR 2 Instruments.—

Care; cleansing; oiling; sharp points and edges.

After-duty cases.

Selection of set-ups for cases.

Appendectomy.

Cholecystectomy.

Hemorrhoidectomy.

OR 3 Sutures.—

Types:

Catgut—boilable; nonboilable Silk; kangaroo tendon; silk-worm gut; wire.

Cotton.

Clips.

Dermal.

Uses of each type.

Preparation and care of sutures.

OR 4 Operating Room Technics, General.—

Care of operating-room suite.

Preparation of operating room for a case.

Cleansing of operating room after dirty case.

Scrub technic.

Preparation for operations.

Setting up operating room with sterile drapes.

Gowning and gloving surgeon and assistant.

Sponge nurse.

Suture nurse.

Handling instruments.

Handling sutures.

OR 5 Central Dressing Room Station Technic.—

Preparation of new materials—glassware; pyrex; soft rubber tubing; needles; utensils.

Preparation of materials for routine use—glassware; rubber tubing; needles; utensils.

Setting up treatment trays—

Types: Intravenous; hypodermoclysis; anesthesia; catheterization.

Preparation of solutions: Irrigating; intravenous.

Operation of autoclaves; dry air sterilizer; stills.

Dressing carriage technic: Setting up carriage; care of materials; assisting the doctor.

Maintenance of stock.

OR 6 Plaster and Plaster Splint Technic.—

Types of plaster.

Padding materials.

Types: Preparation of.

Preparation of plaster bandages.

Types of splints: Moulded; circular; reinforcement strips.

Application of various types of plaster splints.

DEPARTMENT OF PHARMACY

PHAR 1 Pharmacy and Metrology.—

History of Pharmacy.

Theoretical Pharmacy.

Use and care of the prescription counter.

Prescription balances, weights.

Pill tile and spatula; mortar and pestle; graduates.

Elementary arithmetic—review of fractions, decimals, percentage, ratio and proportion.

Tables of weights and measures.

Conversion of weights and measures into equivalents.

Specific gravity; specific volume.

Practical problems in the preparation of percentage solutions.

PHAR 2 Pharmaceutical Arithmetic.—

Review of elementary arithmetic.

Systems of weights and measures—relationship and conversion.

Thermometric scales—relationship and conversion.

Calculation of dosage.

Reducing and enlarging formulas.

Specific gravity; specific volume.

Percentage—percentage solutions.

Stock solutions.

Alligation.

PHAR 3 Principles of Pharmacy.—

Specific gravity; specific volume.

Heat regulation devices—application of; fusion; evaporation; distillation; desiccation.

Subdivision of drugs—trituration; precipitation; crystallization—solutions; solubility theory; colloids; suspensions; emulsions; viscosity; filtration; extraction; maceration; infusion; percolation.

PHAR 4 Operative and Dispensing Pharmacy.—

I. Theory and preparation: Use, dose and properties of aromatic waters, diluted acids, spirits, solutions, mucilages, syrups, elixirs, collodions, infusions, tinctures, extracts, fluidextracts, resins, powders, mulsions, sprays, lotions and ointments.

II. Principles of prescription compounding: Types of prescriptions; powders; capsules; tablet triturates; compressed tablets; pills; suppositories; solutions; mixtures; isotonic solutions; injections; ampules.

DEPARTMENT OF PHYSICAL THERAPY

PHT 1 Mechanotherapy and Exercise.—

Principles of physical therapy.

Stroking; compression; percussion.

Clinical uses—contraindications.

Exercises—passive; assistive; active; resistive.

Clinical uses.

PHT 2 Hydrotherapy.—

Compresses—cold; hot.

Wet packs—cold; hot.

Towel baths.

Sheet baths.

Sheet baths—drip sheet.

Hip and Sitz baths.

Paraffin baths.

Hydrokinetic measures.

Whirlpool baths.

PHT 3 Light and Electrotherapy.—

Types: sources of radiant energy used in light therapy.

Clinical uses.

Precautions; technics.

Types: sources of electrical currents used in electrotherapy.

Clinical uses.

Diathermy.

PHT 4 Fever Therapy.—

Care and use of equipment.

Theory of fever therapy.

Precautions; technic.

Care of patient.

PHT 5 Massage.—

Technic.

Precautions.

Stroking; kneading.

Rubbing; manipulation.

General massage methods.

DEPARTMENT OF PROPERTY AND ACCOUNTING

PA 1 Bookkeeping.—

Practical work in journalizing, posting, and auditing debits and credits.

Ledgers; statements; vouchers.

PA 2 Storage of Equipment and Supplies.—

Storage preservation, issue of equipment and stores.

Accountability records.

PA 3 Elementary Accounting.—

Theory of accounts—debits and credits.

Opening and closing double entry set of books.

Practical work in journalizing, posting, and auditing.

Relationship of commercial and governmental accounting.

Ledgers; statements; vouchers.

Practical governmental accounting.

PA 4 Fiscal Accounting.—

Preparation of budget.

Allotment control.

Fiscal returns.

Relationship of fiscal and hospital accounting.

Preparation of station and hospital budgets.

Preparation of reports.

PA 5 Procurement.—

Purchase program—equipment; supplies.

Preparation of specifications.

Preparation of requisitions.

Bids, contracts, purchase orders, and issue vouchers.

Preparation of public vouchers.

Bureau of Supplies and Accounts Manual.

PA 6 Receipt and Inspection of Property.—

Receiving records.

Inspection, specifications, and commercial practices.

Acceptance and rejection of deliveries.

Replacement of rejected deliveries.

PA 7 Property Accountability.—

Real Estate, Land and Buildings.

Equipment; stores; reservation.

Accounting procedures.

Issue of stores.

Issue of equipment.

Final disposition of property.

Surveys.

Records; accountability.

PA 8 Ship and Station Accounting.—

Application of accounting principles.
Accounting records.
Accounting for stores.
Accounting for equipment.
Reports and returns.
Transfer of accountability.

PA 9 Hospital Accounting.—

Application of accounting principles.
Accounting records.
Accounting vouchers.
Accounting of stores.
Accounting for equipment.
Departmental accounting.
Financial reports and returns.
Transfer of accountability.
Journal; charge register; general ledger.
Land and building ledger; equipment ledger.
Supplies ledger; commissary ledger; expense analysis ledger.

PA 10 Property and Accounting, Ship.—

Methods of procuring medical supplies.
Ledger, equipment.
Journal, receipts and expenditures.
Survey of Medical Department property.
Inventories.
Supply Ledger.

DEPARTMENT OF PSYCHOLOGY

PS 1 Psychology, Applied.—

Principles of psychology:

Normal.

Abnormal.

Handicapped.

Psychological attitudes and adjustment for:

Blind — deaf — cardiac — orthopedic — tubercular — general medical and surgical cases.

PS 2 Psychological tests.—

Training, application and grading of psychological tests.

DEPARTMENT OF TACTICS


TACT 1 Tactics, Medical Field.—

Battalion first aid stations—evacuation of casualties.
Traction splints; gunshot wounds; antitoxins.
Shock.
Return of wounded to organization.
Procurement, storage, and distribution of medical supplies.
Field emergency tags.

TACT 2 Drill.—

March and maneuver drills.
Debarking; landing; field operations.
Map reading.
Uniforms and equipment.

TACT 3 Marine Corps Organization.—

Medical Department of Marine Corps post.
Preparation of reports and returns.
Brigade, regiment, and battalion services.
Medical sections; medical companies; company aid man.
Medical headquarters section.
Collection stations.
Hospital sections.
Manual of the U. S. Marine Corps.
Muster Rolls.
Pay Rolls.
Casualty Lists.
Joint Operations.
Articles of War. 
Army General Orders.

DEPARTMENT OF X-RAY

XR 1 X-Ray Technic.—

Type films and developing procedure.

Technic—position; tube distance; voltage; exposure.

Dangers of Roentgen ray burns.

Differentiation between normal and abnormal structures.

XR 2 Introduction to Roentgenological Technic.—

Discussion and explanation of the basic physics of electricity and x-ray.

Principles of x-ray generators—consideration of physical factors influencing radiographic procedures.

Roentgen therapy.

X-ray circuit.

Mathematics.

XR 3 Film, Screen, and Darkroom Procedures.—

Methods of operating fluoroscopic units; dangers and safeguards.

Operation of high-voltage and low-voltage therapy units.

Measurements of x-ray quality and quantity.

Actual work as technician in fluoroscopic and therapy units under supervision.

Screens and cassettes.

X-ray and photographic films—processing; solutions.

XR 4 Radiographic Technic.—

Handling of films, cassettes, holders, and hangers.

Processing of films, care of darkroom equipment.

Mixing and handling of chemicals used in processing films and actual work in dark room under supervision.

Control of x-ray units; exposure factors; positioning.

X-ray technic.

XR 5 Special Procedures.—

X-ray tubes, types and characteristics; Bucky grinds; cassettes; holders; stereoscopic shifts.

Positioning of patient and tube—anatomical landmarks; normal technics and variations.

Detail of method of positioning for routine examination of each part of body, and special technic for certain variations.

Actual work using several types of machines and bedside units, under supervision.

Fluoroscopy; stereoscopy; photofluorography; sectional radiography.

Localization of foreign bodies.

XR 6 Office Routine.—

Method of keeping records and files.

Identification of films; filing of films.

Actual work in handling requests and reports.

Transcribing dictated reports; terminology.

Anatomy.

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